Cal Lab / 41-13

HITACHI

Model VM-126AU(AE,AK)

Video Monitor

SERVICE MANUAL

Hitachi Denshi, Ltd.

TOKYO, JAPAN

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N O T I C E

This Service Manual describes the most typical product of this model. If there are any specific differences between this Manual and the servicing unit, please refer to the schematic diagram delivered separately for that serial number.

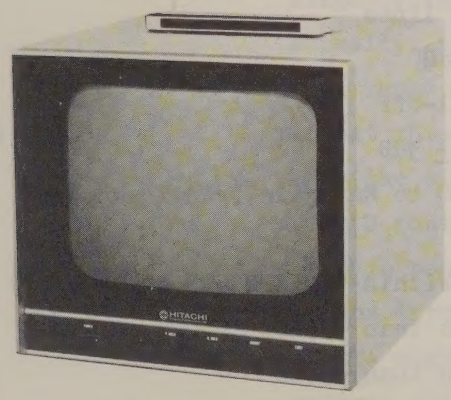
PRODUCT SAFETY NOTICE

(1) X-RAY RADIATION

The primary source of X-ray radiation in this monitor is the picture tube. the tube used in this monitor is especially constructed to limit X-ray radiation emission. For continued X-ray radiation protection, the replacement tube must be the same type as the original, Hitachi approved one.

(2) PRODUCT SAFETY NOTE

Many electrical and mechanical parts in this monitor have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltages, wattage, etc.
Electrical components having such features are identified by marking with a ⚠ on the schematic diagram and parts list in this manual. the use of a substitute replacement component which dose not have the same safety characteristics as the Hitachi recommended replacement one, shown in the parts list in this manual, may creat shock, fire, X-radiation or other hazards.



VIDEO MONITOR

MODEL VM-126AU(AE,AK)

Service Manual

RATING

System:	EIA 525 line or CCIR 625 line system
Sync system:	Internal sync. (Possible to modify to external sync type)
Input signal:	1.0Vp-p composite video signal, sync negative
Input impedance:	75Ω or high (Bridge connection)
DC restoration circuit:	"ON-OFF" switch (No user service)
Effective picture size:	240mm x 180mm
CRT front filter (smoked plate):	Special glass, Transmission factor: 60%
CRT:	310 FRB4 Type 12 90° deflection for display
Semi-conductors:	Transistors: 18 pieces
	Diodes: 20 pieces
Power supply	100/117/220/240V AC 50/60Hz
Power consumption:	37W
Ambient temperature:	-10 to 50°C
Dimensions:	284mm (H) x 318mm (W) x 341mm (D)
Weight:	12kg

ELECTRICAL PERFORMANCE

Resolution:	Horizontal:	700 lines
	Vertical:	350 lines
Frequency characteristics:	Up to 9MHz	± 3dB
	Over 9MHz	Roll-off
Video gain:	Max gain:	40 ± 3dB
	Gain adjustable:	0 to Max gain (continuous)
Video linearity:	Up to the output of 60Vp-p-p:	Within 5% (APL 50% stair wave)
Signal to noise ratio:	Hum:	Less than -55dB
	Synchronous:	Less than -55dB
Geometry:	With 2% (With respect to picture height)	
High voltage:	11KV	
Max brightness:	Over 40 foot lumbert	
Voltage fluctuation:	Stable performance is ensured for an AC input fluctuation of ±10% to the rating.	
Insulation resistance:	Between AC input connector and the chassis ground: Over 10MΩ (DC500V)	

OPERATION

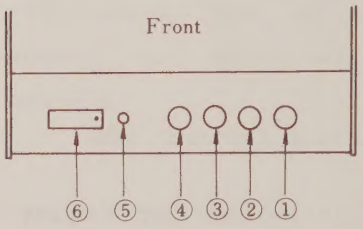


Fig.1

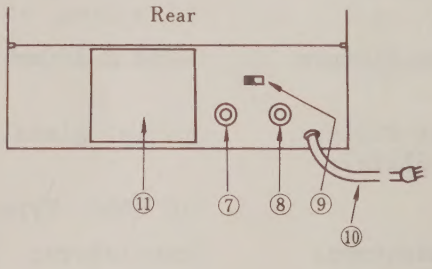


Fig.2

(1) CONT: Adjusts the contrast of a picture.

(2) BRIGHT: Adjusts the brightness of a picture.

(3) H.HOLD: Adjust this control when a picture flows horizontally or when it is desired to shift a picture slightly in a horizontal direction. Normally, the picture is synchronized in the full range of this control.

(4) V.HOLD: Adjust this control when a picture flows vertically. When the picture is flowing downward, rotate the V.HOLD control slowly and stop the picture. At this position, the free oscillating frequency of the circuit coincides with the sync frequency of the signal. Therefore, turn the V.HOLD control slightly clockwise and set it.

(5) Pilot lamp: This pilot lamp comes on by the voltage from high voltage circuit. After the power supply is turned off, it will take one or two seconds until this pilot lamp goes out.

(6) POWER:

(7) VIDEO IN: Connect the video signal by a coaxial cable to the VIDEO IN connector (7).

(8) VIDEO OUT:

(9) 75Ω ON-OFF: If the video from the VIDEO OUT connector (8) is not connected to any other monitor, place the 75Ω termination switch (9) in "ON" position. In the event of making bridge connection, connect the VIDEO OUT connector (8) by a coaxial cable to the VIDEO IN connector (7) of the next monitor and place each 75Ω termination switch (9) of the monitors in "OFF" position except the last monitor.

(10) AC power cord:

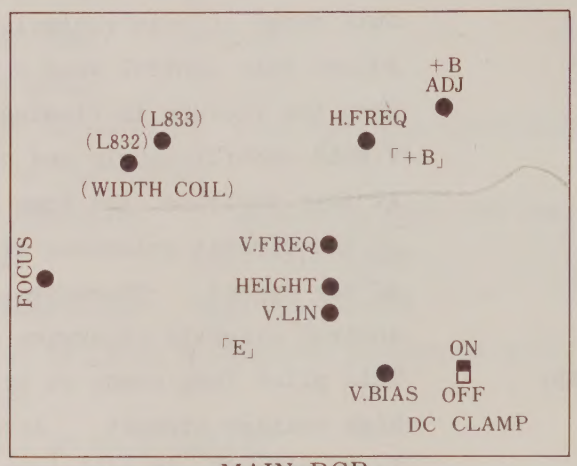
(11) Main name plate: If this name plate is removed, a connector fitting hole for the modification to the external drive system is located beneath there.

ADJUSTMENT

The adjustment should be made with the signals applied to the monitor.

1. Adjusting points on the MAIN PCB

Fig.3



MAIN PCB

(Remarks) PCB: printed circuit board.

(1) +B voltage (Adjustment of +B ADJ)

Connect a DC voltmeter between the PCB fitting bracket and the letter "+B" printed on the PCB and adjust the +B ADJ control by a screw driver.

This control is adjusted to 23.5 ± 0.5V. When rotating the control clockwise (as seen from the pattern surface), the voltage increases and, when rotating it counterclockwise, the voltage drops.

(2) Vertical output transistor bias voltage (Adjustment of V.BIAS)

Connect a DC voltmeter between the PCB fitting bracket and the printed letter E at the emitter of Q803 (2SC680) and adjust the V.BIAS control by a screw driver.

This control is adjusted to 0.6 ± 0.1V (I_E approx. 150mA). When rotating this control clockwise (as seen from the pattern surface), the voltage increases and, when rotating it counter-clockwise, the voltage drops.

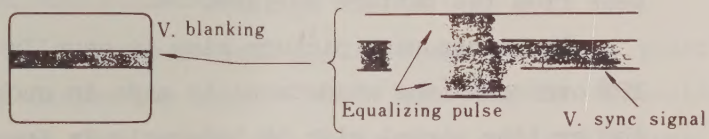
(3) Variable range of the V.HOLD control (Adjustment of V.FREQ)

If the V.HOLD control is rotated clockwise or counterclockwise, the picture flows upward or downward. In this case adjust the V.FREQ control by a screw driver so that the picture flows upward and downward equally.

(4) Variable range of H.HOLD control (Adjustment of H.FREQ)

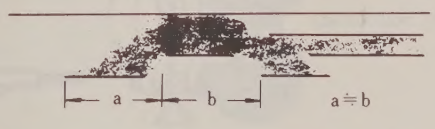
If the V.HOLD control is rotated counterclockwise slowly, the picture starts to flow downward and a vertical blanking signal becomes visible. At that time, adjust both the CONT and the BRIGHT controls so that the vertical sync signal and the equalizing signal in the vertical blanking signals become visible.

Fig.4



Adjust the H.FREQ control by a screw driver so that, when the H.HOLD control is rotated fully clockwise and fully counterclockwise, the tilts of the equalizing pulse become bisymmetrical. As a result, the free oscillating frequency of the circuit becomes 15.6 to 15.8 kHz when the tilt of the equalizing pulse is 90°.

Fig.5



(5) Adjustment of vertical picture size (Adjustment of V.LIN and HEIGHT)

This adjustment is made by rotating the HEIGHT control by a screw driver. When this control is rotated clockwise (as seen from the pattern surface), the vertical size extends and, when rotated counterclockwise, the vertical size becomes narrow.

Since the adjustment of the HEIGHT control changes the vertical linearity a little, make the fine adjustment of V.LIN

control, too. The V.LIN control adjusts the expansion and contraction in the upper part of the picture. (Adjust the linearity by a grating signal).

Usually, the picture size is adjusted to approx. 10% overscan (the adjustment is made in such a way that, when the grating signal with 14 intervals is inserted, 12.4 intervals are visible).

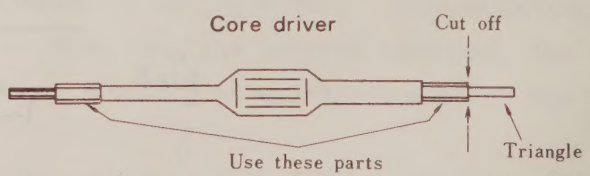
(6) Adjustment of horizontal picture size (Adjustment of WIDTH COIL L833)

This adjustment is made by adjusting the WIDTH COIL (L833) by a core driver. The WIDTH COIL (L833) is provided with two holes for adjustment. No coil is fitted to the hole on the left seen from the pattern surface.

The horizontal picture size is usually adjusted to approx 10% overscan (the adjustment is made in such a way that, when the grating signal with 18 intervals is inserted, 16 intervals are visible).

As the core of the WIDTH COIL (L833), a core with a hexagonal hole is used. For this adjustment, use the core driver without fail. If any hexagonal wrench made of metal is used, it may break the core.

Fig.6



(7) Adjustment of focus

The FOCUS control should be adjusted when the BRIGHT and CONT controls are under normal conditions. Normally, the FOCUS control is so adjusted that the focus at the center part of the picture is the sharpest.

Since the FOCUS control is fitted to the high voltage section, adjust it from the pattern surface side by a screw driver to prevent electric shock.

(8) DC Restoration circuit (DC CLAMP ON-OFF)

By changing-over the DC CLAMP ON-OFF switch, it is possible to apply or release DC Restoration Circuit to or from the video circuit.

This switch is set as follows.

VM-126U ..... OFF

VM-126E, K ..... ON

Since the DC restoration circuit is effective when a black level is not constant, use this circuit in accordance with applications.

2. Adjusting points on deflection yoke

(1) Adjustment of tilt of picture

Loosen the deflection yoke fixing screw and it is possible to rotate the deflection yoke. While pressing the deflection yoke against the CRT, rotate the deflection yoke until such tilts are corrected at the center of the picture.

Then, tighten the fixing screw of the deflection yoke firmly.

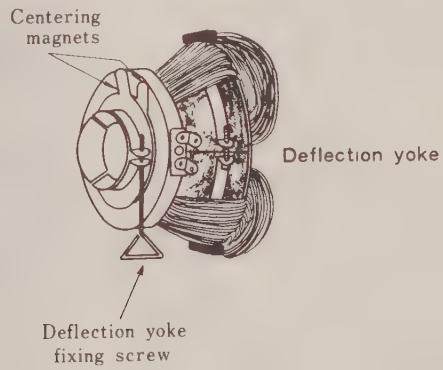


Fig.7

(2) Adjustment of picture position

The picture position can be adjusted by moving the centering magnets of the deflection yoke alternately. When the two sheets of the centering magnets overlap each other, the magnetic force is the biggest and, the picture position is shifted fully.

When the picture position is shifted extremely by the centering magnets, deflection distortion or linearity may be worsened. Also, as the adjustment of the H.HOLD control shifts the picture horizontally a little, make adjustment keeping these situations in mind.

CONSTRUCTION

Fig.8

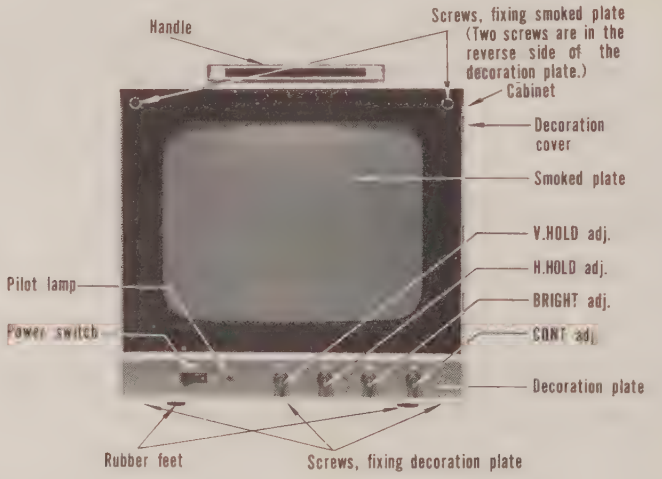


Fig.9

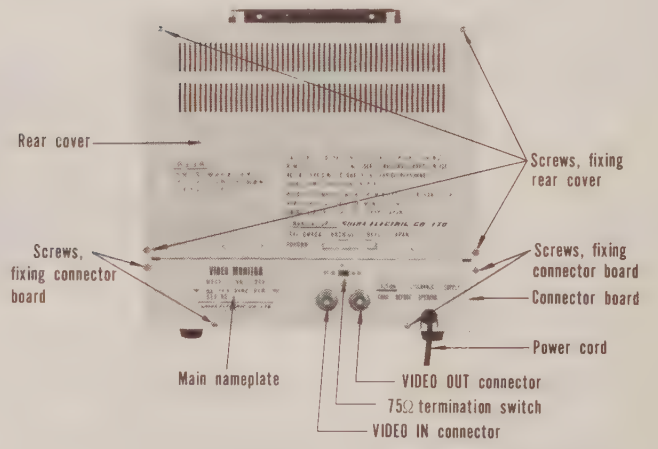


Fig.10

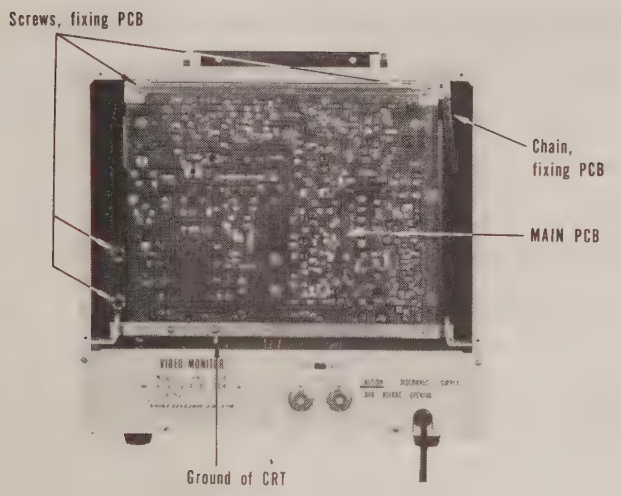
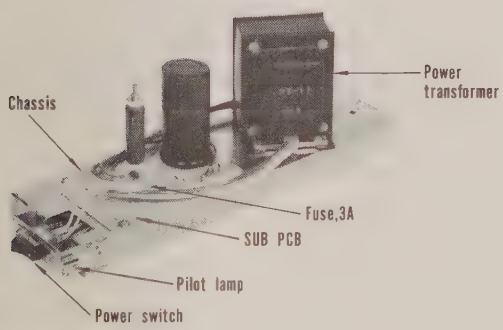


Fig.11



DISASSEMBLY

1. Disassembly procedure

(1) Remove the coaxial cables from the VIDEO IN and VIDEO OUT connectors, respectively.

(2) Remove the power cord from the plug socket.

(3) Remove the rear cover. (Four 3mmø screws).

(4) Remove the ground line for the CRT which is fitted to the MAIN PCB by one 3mmø screw.

(5) Remove the set screw fitted to the MAIN PCB. (Four 3mmø screws. Loosen the screws in the high voltage section).

(6) Remove the following connectors, etc. of the MAIN PCB.

(a) CRT socket

(b) Anode cap

(c) Connectors 2P (VIDEO IN and OUT)
(d) " 3P (H.HOLD and, V.HOLD)
(e) " 5P (CONT and BRIGHT)
(f) " 6P (Deflection yoke)
(g) " 4P (Power chassis)

(7) Remove the lock chain of the MAIN PCB. (The chain is screwed to the radiation panel of the PCB.)
(8) Remove the MAIN PCB.
(9) Remove the connector plate (By removing four 3mmø screws.)
(10) Remove the power chassis. (Bottom plate, four 4mmø screws)
(11) Pull out the knob of the control. (CONT, BRIGHT, H.HOLD, V.HOLD).
(12) Remove the decoration panel. (Bottom plate, three 3mmø screws).
(13) Remove the smoked plate. (Two 4mmø screws. Two flat head screws).
(14) Remove the mask.
(15) Remove the escutcheon. (Five 3mmø flat head screw).
(16) Remove the deflection yoke.
(17) Remove the CRT from the back. (Four 5mmø nuts).
(18) Remove the control mounting plate. (Bottom plate, screwed).
(19) Remove the handle. (Screwed from the inside of the cabinet).

2. Cautions on disassembly and assembly

(1) Since almost all the circuit components are on the MAIN PCB, the PCB weights rather heavy. When assembling the MAIN PCB, therefore, do not forget to fit the lock chain first of all. If the PCB portion is rotated without fitting the lock chain, there is a danger of breaking the MAIN PCB.

(2) When pulling out the multi-conductor connectors, pull it out straightly. Otherwise, the contacts of the connector terminals may become poor. When assembling, therefore, insert the connectors carefully.

(3) Be careful so that all the necessary connectors of the MAIN PCB are inserted correctly. Do not leave any connector without inserting it to prevent possible damages of components on the circuit.

(4) When assembling the MAIN PCB, place the ground line of the CRT in the lower part of the anode lead wire. If the ground line of the CRT touches the high voltage selenium rectifier, a dangerous trouble may result.

(5) The fuses employed in this monitor are of lead type. They are mounted on the Sub PCB found in the power supply chassis. When replacing fuses, therefore, first remove the power supply chassis and then replace the fuses. It is not necessary to remove the sub PCB from the power supply chassis.

(6) The replacement of the CRT can be done if all the works from (11) to (15) of the above Disassembly Procedure are omitted.

(7) If the BRIGHT and CONT controls are rotated fully counterclockwise and left as they are, neither raster nor picture appears on the screen even if the monitor operates.

MODIFICATION

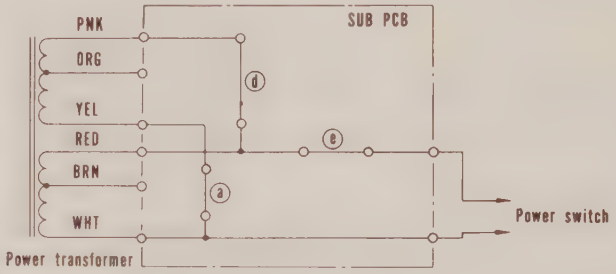
1. Modifications of power voltage and field frequency

The modifications of the power supply voltage and the field frequency are made by means of the strap lines of the SUB PCB and the MAIN PCB, respectively. After completion of such modification, apply a regular signal to the monitor and perform fine adjustments of the picture size, etc.

(1) Modification for AC voltage 117V and the vertical sync frequency 60Hz

(i) Strap (a) , (d) and (e) on the Sub PCB.

Fig.12



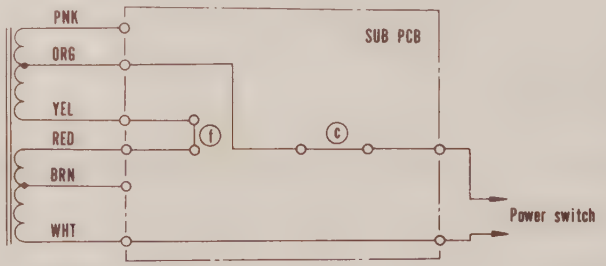
(ii) Do not strap (F) section of the MAIN PCB.

Fig.13

(2) Modification for AC voltage 220V, vertical sync frequency 50Hz

(i) Strap (c) and (f) on the Sub PCB.
To strap (f) , use a vinyl line.

Fig.14



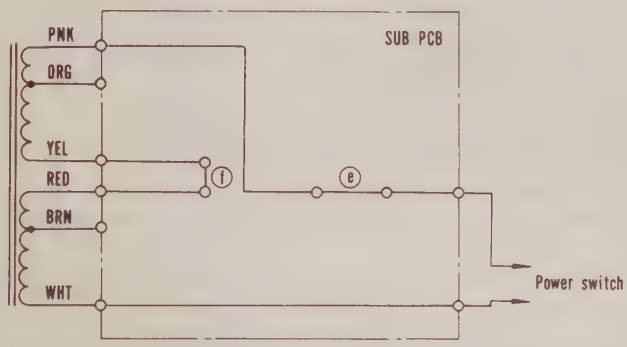
(ii) Strap (F) section of the MAIN PCB.

Fig.15

(3) Modification for AC voltage 240V, vertical sync frequency 50Hz

(i) Strap ⓔ and ⓕ of the Sub PCB.
To strap ⓕ , use a vinyl line.

Fig.16



(ii) Strap Ⓕ section of the MAIN PCB.

Fig.17

The following table shows the differences among models at shipment.

		Stock No.	VM-126U	VM-126E	VM-126K
Power cord	SVT 3-cond(BLK)		○	——	——
	NYLHrd 3-cond(GRY)	E92120811	——	○	○
SUB PCB straps		——	ⓐⓓⓔ	ⓒ ⓕ	ⓔ ⓕ
MAIN PCB Ⓕ strap		——		○	○
DC CLAMP ON-OFF		——	OFF	ON	ON

2. Modification to the external sync type

2-1. Components to be used

Components	Quantity
M-type connector, IMR-C	2
Slide switch, SS(F)22	2
Carbon resistor, R.1/4 75ΩJ	1
AMP terminal, 110 Series 170043-2	3
Terminal 2	3
Coaxial cable, 1.7C-2V	0.6M
Rubber tube, E-type, Black (for 1.7C-2V)	4
Coaxial enforcement lug (for 1.7C-2V)	2
Tin plated wire, 0.65ϕ	0.2M
Vinyl line, black	0.3M

2-2. Wiring

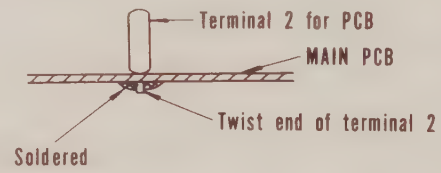
(1) MAIN PCB

(i) Remove the MAIN PCB from the cabinet.

(ii) Remove the strap wire of (S) section.

(iii) Insert the terminal 2 in the square holes of P805, P806 and P807 and solder them.

Fig.18



(2) Connector plate

(i) Remove the connector plate from the cabinet.

(ii) Remove the main name plate from the connector plate. (The external sync input connector fitting hole is located there). Paste the removed main name plate on the rear cover with a binding agent.

(iii) Fit the M-type connector and the slide switch to the holes of the connector plate.

(iv) Wire.

o Coaxial cable.

Fig.19

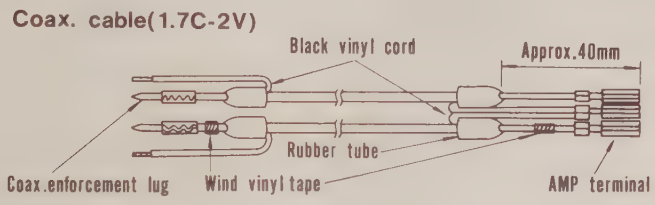
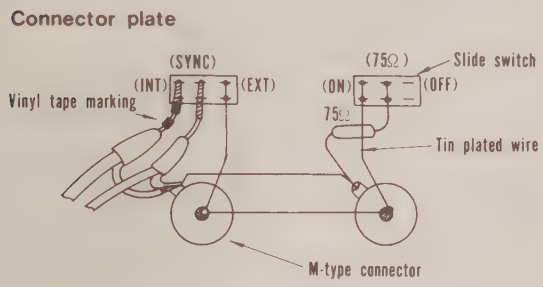


Fig.20



* When soldering a coaxial cable to the SYNC INT-EXT switch of the connector plate, place the side with vinyl tape mark in the INT side.

(3) Assembly

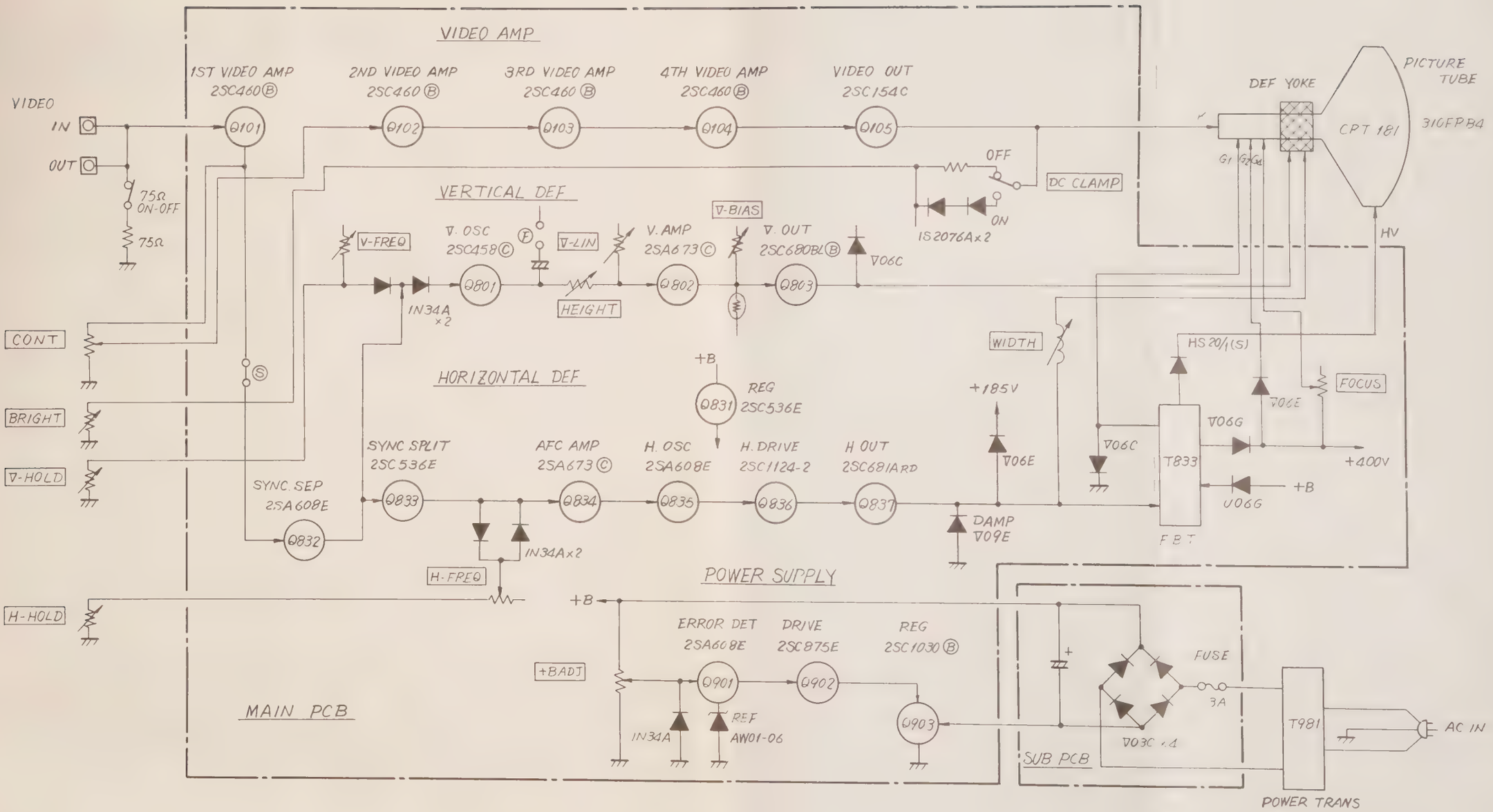
(i) Fit the connector plate and the MAIN PCB to the cabinet.

(ii) The connection of the terminal for the external sync is made as follows:

P805 - Coaxial cable with vinyl tape marking
P806 - Coaxial cable without vinyl tape marking
P807 - Grounding wire.

2-3. Confirmation

Apply the regular signal (sync 4 $\pm$ 2V) to the video monitor and check and confirm the operation.



VIDEO MONITOR
MODEL VM-126A
BLOCK DIAGRAM

ELECTRICAL PARTS ARRANGEMENT, PARTS LIST, AND SCHEMATIC DIAGRAMS

MAIN Printed Circuit Board 20
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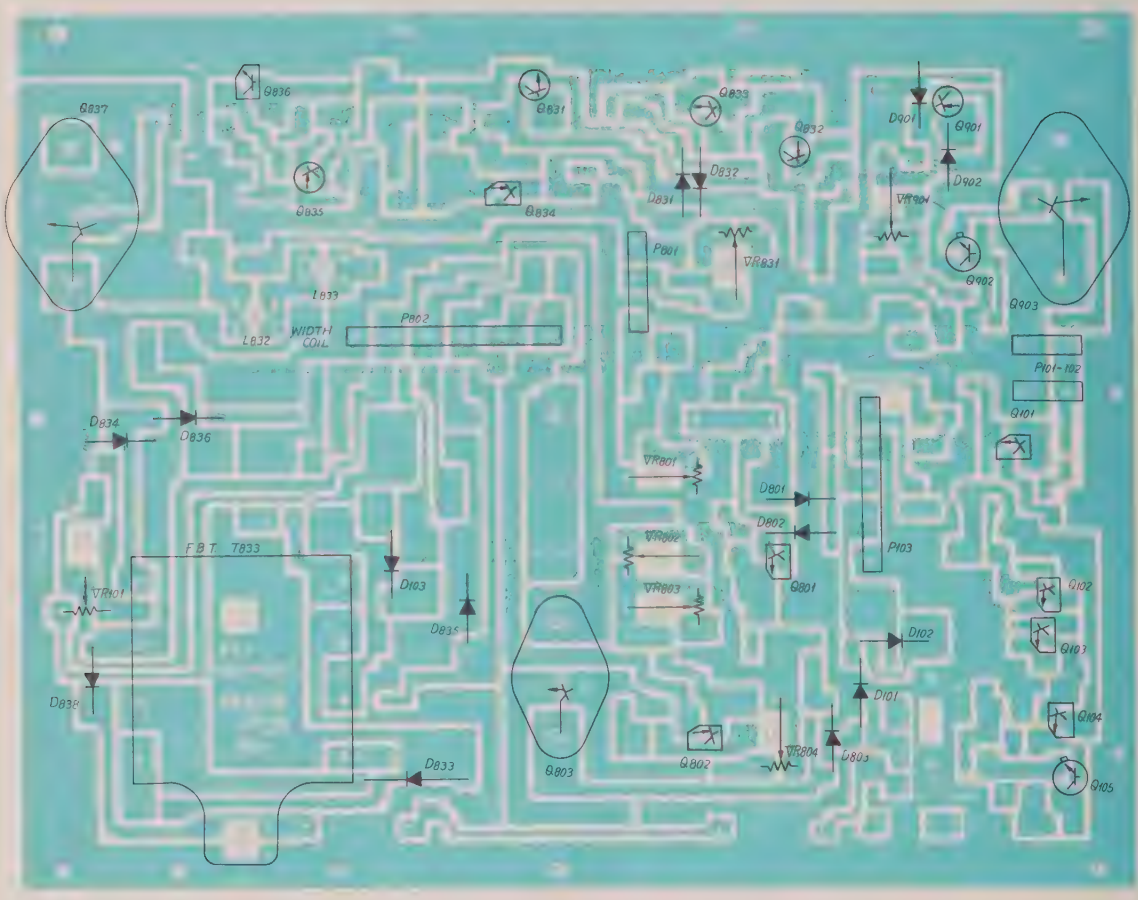
CABINET Parts List 24
SCHEMATIC DIAGRAM 25

PRODUCT SAFETY NOTICE -- Components marked with ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this manual. Do not degrade the safety of this monitor through improper servicing.

MAIN Printed Circuit Board



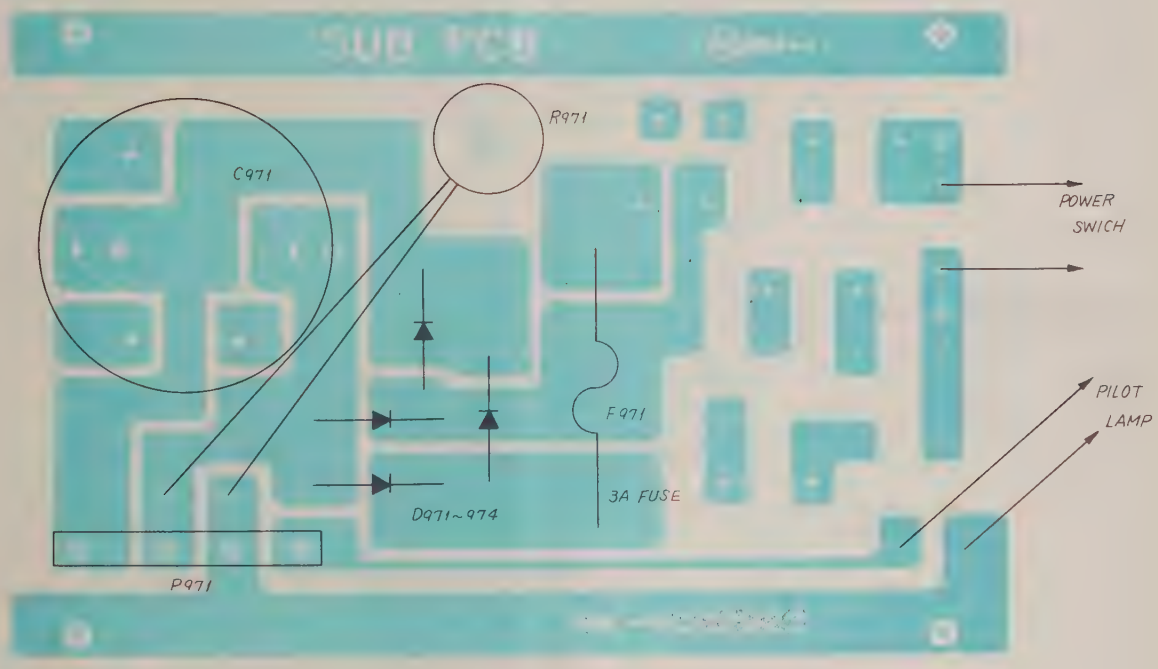
MAIN PCB Parts List

Symbol	Description			Remarks	Part Code
	Transistors				
Q101	2SC460 Ⓑ				H23300008
102	"				"
103	"				"
104	"				"
105	2SC154C				H23300007
801	2SC458 Ⓒ				H23300017
802	2SA673 Ⓒ				H23100024
803	2SC680BL Ⓑ				H23300088
△ 831	2SC536E				H23300076
832	2SA608E				H23100023
833	2SC536E				H23300076
834	2SA673 Ⓒ				H23100024
835	2SA608 E				H23100023
△ 836	2SC1124-2				H23300087
837	2SC681ARD				H23300015
901	2SA608 E				H23100023
902	2SC875 E				H23300019
△ 903	2SC1030 Ⓑ				H23300016
	Diodes				
D101	1S2076 A				H21400015
102	"				"
103	V06 E				H21100019
801	1N34A				H21200001
802	"				"
803	V06C				H21100018
831	1N34 A				H21200001
832	"				"
△ 833	U06C				H21400016
△ 834	V09 E				H21400019
835	V06 C				H21100018
836	V06 G				H21100020
△ 837	HS 20/1 (S)			Selenium	H28100005
838	V06 E				H21100019
901	1N34 A				H21200001
△ 902	AW01-06			Zener	H21500009
	Variable Resistors				
VR101	Car	1MΩ B		FOCUS	H55451031
801	"	5000Ω B		V-FREQ	H55422005
802	"	"		HEIGHT	"
803	"	2000Ω B		V-LIN	H55422003
804	"	"		V-BIAS	"
831	"	"		H-FREQ	"
901	"	1000Ω B		+B ADJ	H55451002
	Resistors				
R101	Fixed, Car	1000Ω	1/4W		H51623102
102	"	100kΩ	"		H51623104
103	"	56kΩ	"		H51623563
104	"	1500Ω	"		H51623152
105	"	680Ω	"		H51623681
106	"	100Ω	"		H51623101
107	"	"	"		"
108	"	100kΩ	"		H51623104
109	"	33kΩ	"		H51623333
110	"	1800Ω	"		H51623182
111	"	470Ω	"		H51623471
112	"	15kΩ	"		H51623153
113	"	"	"		"
114	"	1800Ω	"		H51623182
115	"	560Ω	"		H51623561
116	"	1500Ω	"		H51623152
117	"	270Ω	"		H51623271
118	"	560Ω	"		H51623561
119	"	150Ω	"		H51623151
120	"	2700Ω	"		H51623272
121	"	5600Ω	1W		H51643562
122	"	390kΩ	1/4W		H51623394
123	"	1MΩ	"		H51623105
124	"	10kΩ	"		H51623103
125	"	1000Ω	"		H51623102
126	"	82kΩ	"		H51623823
127	"	1MΩ	1/2W		H51633105
128	"	10kΩ	1/4W		H51623103
129	"	100kΩ	"		H51623104
130	"	390kΩ	"		H51623394
△ 131	"	6800Ω	1W		H51643682
132	Fixed, Metal	330Ω	"		H53113331
133	"	"	"		"
134	Fixed, Car	3.3MΩ	1/2W		H51633335
801	"	2700Ω	1/4W		H51623272
802	"	5600Ω	"		H51623562
803	"	3300Ω	"		H51623332
804	"	10kΩ	"		H51623103
805	"	5600Ω	"		H51623562
806	"	"	"		"
807	"	3300Ω	"		H51623332
808	"	2200Ω	"		H51623222
809	"	15kΩ	"		H51623153
810	"	1200Ω	"		H51623122

Symbol	Description			Remarks	Part Code
R811	Fixed, Car	820Ω	1/4W		H51623821
812	"	3.9Ω	1/2W		H51633039
813	"	2700Ω	1/4W		H51623272
814	"	390Ω	"		H51623391
815	"	220Ω	"		H51623221
816	"	3.9Ω	1/2W		H51633039
817	"	100kΩ	1/4W		H51623104
818	"	5600Ω	"		H51623562
819	"	1000Ω	1/2W		022737
△ 831	"	2200Ω	1/4W		H51623222
△ 832	"	3300Ω	"		H51623332
△ 833	"	1500Ω	"		H51623152
834	"	100Ω	"		H51623101
835	"	560Ω	"		H51623561
836	"	560kΩ	"		H51623564
837	"	5600Ω	"		H51623562
838	"	1500Ω	"		H51623152
839	"	3300Ω	"		H51623332
840	"	6800Ω	"		H51623682
841	"	560Ω	"		H51623561
842	"	"	"		"
843	"	22kΩ	"		H51623223
844	"	"	"		"
845	Car	10kΩ	"		H51623103
△ 846	"	"	"		"
△ 847	"	5600Ω	"		H51623562
848	"	3900Ω	"		H51623392
849	"	10kΩ	"		H51623103
850	"	680Ω	"		H51623681
△ 851	"	1800Ω	"		H51623182
852	"	1000Ω	"		H51623102
853	"	1500Ω	"		H51623152
854	"	220Ω	"		H51623221
△ 855	"	560Ω	"		H51623561
856	"	220Ω	"		H51623221
△ 857	Metal	470Ω	1W		H53113471
△ 858	Car	"	"		"
859	"	56Ω	"		022719
860	"	1800Ω	1/4W		H51623182
861	"	5600Ω	"		H51623562
862	"	100kΩ	"		H51623104
863	"	10kΩ	"		H51623103
△ 864	"	1000Ω	1W		H51643102
865	"	1MΩ	1/2W		H51633105
△ 866	Metal	100Ω	2W		H53823101
869	Car	2200Ω	1/4W		H51623222
△ 901	"	"	"		"
△ 902	"	8200Ω	"		H51623822
903	"	1800Ω	"		H51623182
904	"	4700Ω	"		H51623472
905	"	3900Ω	"		H51623392
	Capacitors				
C101	Elyc	220μF	35V		H71151221
102	"	47μF	16V		H71131470
103	"	470μF	10V		H71121471
104	"	100μF	16V		H71131101
105	"	"	10V		H71121101
106	"	47μF	16V		H71131470
107	Cer	15pF	50V		H67221054
108	"	390pF	"		H67221073
109	Elyc	220μF	16V		H71131221
110	Cer	68pF	50V		H67221062
111	Film	0.47μF	200V		H63433474
112	Elyc	3.3μF	160V		H71211033
113	Film	0.047μF	200V		H64132473
114	"	0.1μF	"		H63233104
115	"	0.047μF	600V		H63353473
116	Elyc	2.2μF	500V		H71481022
117	"	3.3μF	350V		H71251033
801	"	1μF	50V		H71163010
802	Film	0.047μF	"		H64113473
803	"	0.022μF	"		H64113223
804	"	0.047μF	"		H64113473
805	"	0.1μF	"		H64113104
806	Tantalum	10μF	16V		H74633106
807	Elyc	1μF	50V		H71163010
808	"	3.3μF	"		H71161033
809	"	47μF	16V		H71131470
810	Film	4700pF	50V		H64113472
811	Elyc	100μF	16V		H71131101
812	"	10μF	160V		H71211100
813	"	"	16V		H71131100
814	"	1000μF	10V		H71121102
831	Elyc	100μF	16V		H71131101
832	Film	0.047μF	50V		H64113473
833	Elyc	1μF	"		H71163010
834	"	100μF	16V		H71131101
835	"	1μF	50V		H71163010
836	Film	0.01μF	"		H64113103
837	"	"	"		"
△ 838	"	0.033μF	"		H64112333
839	"	0.01μF	"		H64113103
840	"	3.3μF	"		H71141033
△ 841	"	0.033μF	"		H64112333

Symbol	Description			Remarks	Part Code
C842	Film	2200pF	50V		H64113222
843	"	0.068μF	"		H64112683
844	Elyc	47μF	16V		H71131470
△ 845	"	100μF	"		H71131101
846	Film	0.047μF	50V		H64113473
△ 847	"	3.3μF	100V		H64722335
848	Elyc	3.3μF	50V		H71161033
849	"	470μF	35V		H71151471
△ 850	"	220μF	16V		H71131221
△ 851	Film	0.015μF	600V		H63552153
852	Not Used				
853	Film	0.033μF	50V		H64112333
854	"	4700pF	100V		H64122472
855	"	0.047μF	600V		H63353473
856	Cer	220pF	50V		H67221068
901	Elyc	100μF	35V		031125
902	"	47μF	25V		H71141470
903	Film	0.01μF	50V		H64113103
	Coils				
L101	Ferri Inductor	33mH			J17172333
102	"	27μH			J17132270
103	"	100μH			J17132101
* 831	Ferri Inductor	1.8mH			J17151182
832	Not Used				
* 833	Coil, WIDTH	LC-0081		(LC-0112)	J17320029
△ 834	" H-LIN	LC-0080			J17320031
835	Ferri Inductor	27μH			J17272270
	Transformers				
T801	V-OSC	VB-12			J14220001
802	V-OUT	VO-12B			J14210001
831	H-OSC	HB-12A			J14220010
832	H-DRIVE	HD-12			J14220002
△ 833	F.B.T.	TC-0271			J16310013
SG 101	Spark Gap	CT624, 1kV			H79520102
102	"	AG20 2kV			H79510202
103	"	"			"
TH 801	Thermistor	D-1E BLK			H25100003
J 101	Socket, CRT	M Type			K15110036
901	Multi-Connector	4P			J44232025
P 101	Octal Pin			2 pcs	K14320001
102	"			2 pcs	"
103	"			5 pcs	"
801	"			3 pcs	"
802	"			6 pcs	"
803	Anode Cap	20kV 400mm			K14320009
SW 101	Slide Switch	SS(F)22			J32000001
(Q105)	Heat Sink	KQB-15			K43200004

SUB Printed Circuit Board



SUB PCB Parts List

Symbol	Description	Remarks	Part Code
	Diodes		
△ D971	V03C		H21100016
△ 972	"		"
△ 973	"		"
△ 974	"		"
△ R971	Enameled Resistor 25Ω 15W		H52131001
C971	Elyc Capacitor 4700μF 50V		H71564001
P971	Octal Pin	4 pcs	K14320001
△ F971	Fuse 3 A UL		K12522030

CABINET Parts List

1 Power supply chassis

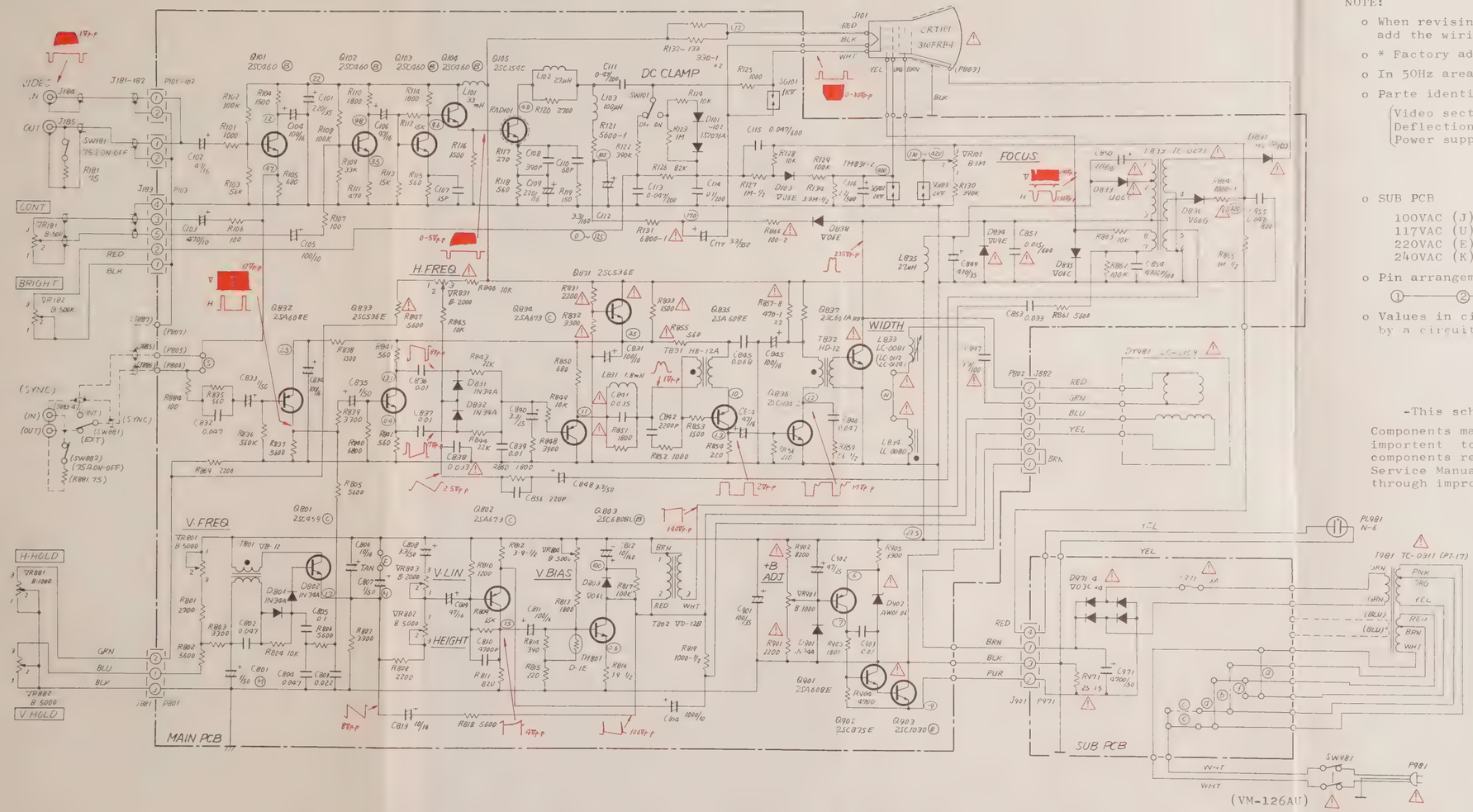
Symbol	Description	Remarks	Part Code
△ T981	Transformer, POWER TC-0311	(PT-17)	J12210016
△ P981	AC Cord SVF 3 cond. Black	VM-126U	E92220811
	" NYLHYrd 3 cond. Gray	VM-126E,K	E92120811
PL981	Lamp, Neon N-6		K11260006
△ SW981	Switch, Seesaw SDE-4SB2 Black		J31020008
	(SUB PCB Assy)		

2 Connector panel

Symbol	Description	Remarks	Part Code
J181	Multi-Connector 2P		J44232023
182	" "		"
184	Connector, M-type IMR-F		J45132016
185	" " "		
R181	Resistor, Carbon 75Ω 1/4W		H51623750
SW181	Switch, Slide SS(F)22		J32000001

3. Others

Symbol	Description	Remarks	Part Code
	Var Resistors		
VR181	Car 500Ω B	CONT	H55462023
182	" 500kΩ B	BRIGHT	H55462024
881	" 1000Ω B	H-HOLD	H55462037
882	" 5000Ω B	V-HOLD	H55462038
CRT181	Picture Tube 310DGB4	(VM-126)	010127
	" 310FRB4	(VM-126A)	H16112004
J183	Multi-Connector 5P		J44232024
881	" 3P		J44232027
DY881	Def. Yoke LC-0109		K62620015
	(MAIN PCB ASSY)		



NOTE:

- o When revising VM-126A to an external drive mode, add the wirings shown by dotted lines.
- o * Factory adjustment
- o In 50Hz area, strap (F).
- o Parte identification

Video section	1	MAIN PCB	VIDEO	101-169
Deflection section	8		V.DEF	801-829
Power supply	9		Sync, H. DEF	831-869
			P.S.	901-969
		SUB PCB		71-79
		Chassis		81-99

- o SUB PCB

100VAC (J)	Strap (a), (b) and (c)
117VAC (U)	Strap (a), (d) and (e)
220VAC (E)	Strap (c) and (f)
240VAC (K)	Strap (e) and (f)

- o Pin arrangement of multi-pin connectors

① ② ③ ④ ⑤ ⑥

- o Values in circle indicates the voltage measured by a circuit tester.

PRODUCT SAFETY NOTE

-This schematic diagram is for serviceman only.-

Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components read carefully the PRODUCT SAFETY NOTICE of Service Manual. Don't degrade the safety of the MONITOR through improper servicing.

FUNDAMENTAL SCHEMATIC DIAGRAM

DIFFERENCES MAY BE FOUND BETWEEN THIS SCHEMATIC DIAGRAM AND THE SERVICING UNIT, DUE TO VARIOUS IMPROVEMENTS MADE HEREAFTER.

VIDEO MONITOR MODEL VM-126A SCHEMATIC DIAGRAM

MECHANICAL PARTS LIST

Symbol	Description	Qty	Remarks	Part Code
1	Cabinet	1		1002982A
2	Chassis, Power Supply	1		2011831B
3	Heat Sink (1)	1		4038618A
4	" (2)	1		4002942A
5	" (4)	1		4018247A
8	Mount, Switch	1		4054091A
9	Holder, Lamp	1		4003165B
10	Bracket, Mask Support	1		4013646A
11	Nut (1)	2		4002932A
12	" (2)	1		4002933A
13	Pivot, PCB	1		3004984A
14	Reinforcement, PCB	1		4002941A
15	Mount, Var Resistor	1		3004985A
16	Rear Cover	1		3023931D
17	Decoration Nameplate	1		3021327A
18	Mount, Connectors	1		3015557B
19	Front Panel	1		3018765A
20	Spring, GND	1		4T11972A
21	Cover, Flyback Transformer	1		3006563A
22	Washer, Var Resistor	4		4C44958A
23	Cap, Pilot Lamp	1		4T13298A
24	Mask	1		3002669D
25	Smoked Plate	1		3002670B
26	Mount, Selenium Rectifier	1		4000272A
27	Cap (1)	1		4043279B
28	" (2)	1		4043280A
29	Band (3)	1		4051683A
30	" (4)	1		4051684A
31	Bushing, Power Cord	1		4051681A
33	Clip	1		4053381A
34	Bushing, Rubber	1		4051685A
35	Knob, Var Resistor	4		4C44957A
36	Handle	1		9301092
38	Axle, Handle	2		4019831A
43	Chain	1		4055829H
44	Foot, Rubber	4		4044795P
47	Decoration Frame	1		3009497A

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